

NEW SPECIES AND RECORDS OF STRATIOMYIDÆ FROM
PALEARCTIC ASIA

(Diptera)

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The Stratiomyidæ of Palearctic Asia have been studied during recent years by Matsumura, Pleske, Lindner, and others, but it is to Lindner that we are indebted for the comprehensive treatment of this family in his contribution to *Die Fliegen der Palæarktischen Region*. However, it is evident that much is yet to be known of the Asiatic fauna. In this paper, I am describing several new species and giving some new records which will extend our knowledge of these flies. The specimens collected by Thompson, Van Dyke, and Wright are in the collection of the California Academy of Sciences unless otherwise noted.

SUBFAMILY BERIDINÆ

Hoplacantha japonica James, new species

Female. *Head* black, dull on face, strongly bright-purplish metallic on front; antennæ brown; proboscis bright yellow; palpi brown. Ratio of first and second antennal segments and flagellum 10:4:14; of face in middle, front above antennæ, and vertex through paired ocelli 7:8:18 (same units as antennæ); front gradually widening posteriorly. Eyes with dense but short brownish-black pile; face, front, and vertex with dense brownish-black pile which is as long as the first antennal segment; pile of occiput concolorous, but shorter. *Thorax*, including pleura, scutellum, and bases of scutellar spines, bright emerald green; scutellar spines yellow at apex; pile mostly moderately long, whitish yellow, but the dorsum with some pile similar in color and length to that of face and front. Coxæ black, trochanters brown, legs otherwise yellow, except that the terminal segments of front and middle tarsi and knees and tibiæ of hind legs are somewhat darkened, and hind basitarsi are white (other segments of hind tarsi missing in type). Wings hyaline; veins yellow at base, otherwise brown; stigma brown. Halteres lemon-yellow. *Abdomen* brownish-black, semi-metallic, luster coppery except at apex, where it becomes purplish; genital lamellæ yellow. Pile short, black, dense; that of sides and venter pale yellow, long at base, becoming somewhat shorter apically. Length, 6.5 mm.

Holotype, female, No. 5121, Calif. Acad. Sci., Ent., Kago-shima, Japan, March, 1912 (J. C. Thompson).

Related to *compta* Enderlein (Sikkim, India) and *flavicornis* James (Formosa); the wholly dark coxæ, however, will readily distinguish it. The abundant bushy pile of the head will further distinguish it from *flavicornis* and the coloration of the legs from *compta*.

HOPLACANTHA SOLOX Enderlein

Female, Kagoshima, Japan, March, 1912 (J. C. Thompson). The types are from Sapporo.

ALLOGNOSTA SINENSIS Pleske

Female, Nikko, Japan (Koebele). The types are from Szechuan Province, China.

SUBFAMILY GEOSARGINÆ

GEOSARGUS JANKOWSKII Pleske

Two females, Weisohn, Manchuria, August 30, 1923 (E. C. (Van Dyke)); one female, Soochow, China, May 27, 1923 (Van Dyke).

GEOSARGUS SPLENDENS Meig.

One male, Kobe, Japan.

GEOSARGUS MANDARINUS Schin.

Two males, one female, Nanking, China, April 21-30, 1923 (Van Dyke); one female, Soochow, China, May 27, 1923 (Van Dyke).

GEOSARGUS METALLINUS Fabr.

Female, Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939 (M. I. Nikitin). This species is reported as very common in India and the East Indies, but has not previously been recorded from the Palearctic Region. My specimen seems to differ in no way from Indian specimens.

Geosargus vandykei James, new species

Female. Front narrow, at its narrowest point, somewhat less than the width of the third antennal segment, metallic green; vertex becoming purplish; face sub-shining black; callus above antennæ yellow, undivided. Proboscis dirty yellow. Antennæ black on first two segments, otherwise brownish-yellow, the arista be-

coming darker apically. Pile black on front and basal antennal segments, otherwise yellowish, that on face rather dense. Occiput with a prominent fringe of yellowish pile. *Thorax*, including pleura and scutellum, purplish, the pleura in part with a reddish cast; metanotum emerald-green; pile fairly dense, especially behind and below, pale yellowish, almost whitish. Coxæ, trochanters and femora deep black; front and middle tibiæ and tarsi brownish-yellow, the middle tibiæ darker; hind tibiæ and tarsi brownish-black, the tibiæ with an indistinct median pale ring. Wings almost uniformly brown, somewhat paler on posterior margin. Halteres brownish-yellow. *Abdomen* metallic purplish at base, otherwise bronze or coppery, the purple being more extensive ventrally; pile abundant and conspicuous, especially when viewed from behind, mostly grayish-white, but black on areas in the form of cross-bands just behind middle of segments (more extensive ventrally than dorsally) and at apex. Genital lamellæ blackish. Length, 17 mm.

Holotype, female, No. 5122 Calif. Acad. Sci., Ent., Tung Ko Forest Sta., Kiangsu province, China, June 12, 1923 (E. C. Van Dyke).

Close to the European *iridatus* Scop., to which it runs in couplet 13 of Lindner's key (*Die Fliegen*, p. 38-9); *iridatus*, however, is smaller and has the callus over the antennæ divided into two white spots, the wings less strongly infumated, the legs more extensively black, etc.

CHLOROMYIA MELAMPOGON Zeller

Male, Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939 (M. I. Nikitin).

MICROCHRYSA LAODUNENSIS Pleske

Male, Shanghai, China, August 3, 1926 (Mrs. Dora E. Wright); female, Mokansan, Che Kiang Prov., China, August 28, 1927 (Mrs. Wright).

PTECTICUS TENEBRIFER Walk.

Numerous records from Japan and China.

PTECTICUS AURIFER Walk.

Male, female, Nikko, Japan, July 30 and August 4, 1923 (Van Dyke); four females, Yen Ping, China, June 30 to August 13, 1917.

SUBFAMILY STRATIOMYINÆ

STRATIOMYS ANUBIS Wied.

Eight females, four males, Nanking, China, April 21 to June 11, 1923 (E. C. Van Dyke).

STRATIOMYS RUFICORNIS PYRRHOCERA Lw.

Two males, two females, Mt. Ellurs, Nissa, Iran (Brandt).

Stratiomys lindneri James, new species

Female. *Head* black, except for the following yellow areas; posterior part of vertex and area behind it extending to the neck; a pair of spots above the antennæ, almost contiguous with each other and with eyes, and about half as high as front; and facial orbits extending almost from frontal spots to cheeks, and widening below. Pile of front and vertex variable, yellow to black, sparse; pile of head otherwise yellow, that on face and cheeks dense. Antennæ black; ratio of two basal segments and flagellum 50:10:65. Vertex flattened; front and vertex rugose; occipital orbits narrow, densely yellowish to whitish pollinose near eyes. *Thorax* black; scutellar spines and narrow apex between them yellow; pile dense, yellow, that on dorsum appressed or nearly so. Metanotal pile yellow. Legs black, knees, bases of tibiæ, and tarsi yellow, tarsi more or less darkened on apical segments. Wings brownish-yellow, paler apically and posteriorly. Halteres yellow. Abdomen black, marked with yellow; second segment with large lateral triangular markings which attain base of segment; third and fourth with linear rectangles, the pattern of which is variable, those on segment three sometimes being similar to those of two, and contiguous with them, those of four in the holotype expanded into a complete posterior band; fifth segment with a large median spot; lateral margins of dorsum and venter, and posterior margins of ventral segments, more or less expanded medially, yellow. Pile short, yellow, some black on black dorsal areas, short, somewhat longer at base and sides of dorsum and middle of venter. Length, 15-18 mm.

Male. Similar; head entirely black; pile of frontal triangle and of narrow strip between eyes black; eyes with scattered but fairly long black pile. Pile of thorax and abdomen much longer, that of middle of ventral segments especially long and dense.

Holotype, female, No. 25444, Mus. Comp. Zool., Takayama, Japan, August 22, 1931 (Gressitt). Allotype, male No. 25444, Mus. Comp. Zool., same data. Paratypes, female, Takayama, Japan, August 12, 1931 (Gressitt); male, Takayama, Japan, August, 1932; male, female, Kobe, Japan; female, Sumiyushi, June, 1909; two females, Kyoto, Japan, July 16, 1923 (E. C. Van Dyke).

Close to the European *S. furcata*; but in that species the yellow facial orbits are lacking, the spots above the antennæ are much smaller, the scutellum is extensively yellow, the mesonotum has considerable erect pile, the body pile is whitish, and the average size is apparently smaller. Dr. Lindner had seen one female which he considered a distinct subspecies of *furcata* (*Die Fliegen*, Stratiomyidæ, p. 61) but did not name. I believe this form is worthy of specific rank.

Stratiomys hispanica planes James, new subspecies

Male. *Eyes* bare. Antennæ black; apex of second segment brownish-yellow; ratio of two basal segments and flagellum 20:6:28. Face, except median line, angle of oral margin, and a spot below lower angle of each eye, yellow; lower occipital orbits broadened, yellow; head otherwise black. Pile of face dense, silvery. *Thorax* black, pile dense, mostly appressed, silvery. Metanotal pile silvery. Scutellum and spines yellow; a large black triangular spot at base. Coxæ, trochanters, and femora, except apices, black; tibiæ yellow, each with a median black ring, most noticeable on hind pair; tarsi yellow. Wings very lightly infumated, veins yellow. Halteres pale yellow. Abdomen black, with prominent paired yellow spots on segments two to four, and a median unpaired one on segment five; those on segment two border broadly on the lateral margin, and reach the base of the segment, where they continue laterally half-way to base of first segment; those on segment three touch lateral margin only posteriorly, but are large, almost semicircular, and reach the basal fourth or fifth of the segment; those on four are similar, reach the basal third of the segment, and sometimes broadly join each other to form a continuous transverse band; that on five reaches the basal third of the segment. Venter yellow; first segment with a basal black marking on each side or a transverse basal band; third, fourth, and fifth each with a transverse black or brown basal band. Length, 8-10 mm.

Holotype, male, No. 5123, Calif. Acad. Sci., Ent., Curum, 100 km. Bouchir, Iran. (Brandt). Paratopotypes, six males, same data.

Distinguished from typical *hispanica* chiefly by the smaller size and the abdominal markings, and from *h. cypria* Pleske by the abdominal markings and the bare eyes.

Stratiomys annectens James, new species

Female. *Head* in large part yellow; occiput, except orbits, vertex, upper three-fifths of front, an area at base of antennæ and extending over median third of face to oral margin, oral margin, and an area between lower corner of each eye and oral margin,

black. Pile of face and front scattered; yellow. Occipital orbits of approximately equal width throughout. Antennæ black; ratio of basal two segments and flagellum 18:6:35. Eyes bare. *Thorax* black; pile rather dense, appressed, yellow; metapleural pile yellow. Scutellum yellow, black on basal fourth; spines yellow. Coxæ, trochanters, and femora, except apically, black; tibiæ yellow, the hind pair with an indistinct brownish ring; tarsi apparently yellow, front and middle ones, however, damaged in type. Wings hyaline; veins yellow. Halteres yellow. Abdomen black, marked with yellow; second segment with a pair of lateral triangles which extend about three-fifths distance to base; third and fourth segments with almost linear markings at posterior angles; fifth segment with posterior margin and a small median triangle yellow. Venter black, posterior margins of segments yellow, that of second broadest and reaching base of segment medially. Length, 10 mm.

Holotype, female. Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939 (M. I. Nikitin); author's collection.

Related to the Asiatic *prezwalskii* Pleske; also to the Nearctic *currani* James and *laticeps* Lw., particularly the former. The black vertex and adjoining sclerite of the occiput will readily separate it from all three of these species. In Lindner's key it traces to *potamida* or *prezwalskii*, but does not fit either alternative.

HOPLODONTA VIRIDULA Fabr.

Numerous males and females, Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939 (M. I. Nikitin).

ODONTOMYIA STAUROPHORA Schiner.

Female, Hangchow, China, May 12, 1923 (E. C. Van Dyke); male, Nanking, China, June 20, 1923 (Van Dyke).

Male (apparently undescribed). *Head* black, except oral margin and a line extending from upper oral angle to antennal bases, which are yellow; antennæ yellow. Pile of face whitish, longer and denser than in female. *Thorax* black except following yellow regions: humeri; supra alar calli and small areas just anterior to them, extending about half-way to suture; scutellum, except very narrow base, and scutellar spines; a broad area on pleura, extending from propleura over upper part of mesopleura to ptero- and metapleura; and a somewhat isolated spot on upper part of sternopleura. Thorax rather thickly clothed with whitish pile and golden (on dorsum) to silvery (on pectus) tomentum. Femora and hind tibiæ blackish or brownish-black, except at narrow bases and apices; tarsi somewhat darkened apically; legs otherwise yellow. Abdomen as in female (cf. Lindner, *Die Fliegen*, Stratiomyidæ, Pl. IV, fig. 48).

The resemblance of the female to the Nearctic *O. cincta* is striking, but the male, if I have correctly interpreted it, dispels any doubt as to their distinctness. The female of *cincta* has different patterns on the third and fourth abdominal segments, and the thorax is more hairy.

Odontomyia atrodorsalis James, new species

Female. *Head* black except following yellow areas: two spots on front, along midfrontal suture, immediately anterior to unpaired ocellus; a considerable area, half width of face, below antennæ; and an area on each occipital orbit, below middle of eyes; limits of these areas not well defined. Antennæ, proboscis, and palpi black. First antennal segment somewhat longer than second; flagellum missing. Face rather broad, carinate. Head with rather dense white to yellow appressed pile; some erect pile on cheeks. *Thorax* black; scutellum narrowly yellow only at tip, the color extending some distance outside spines, however; spines yellow. Thorax densely yellow tomentose dorsally, pleura and pectus with abundant white pile, mostly appressed. Legs beyond trochanters yellow; femora more or less darkened on inner surface; last three or four tarsal segments blackish. Wings hyaline; strong veins brown; vein R_4 absent; M_1 long, but weak except at base; M_2 comparatively strong; M_3 developed only at base. Halteres yellow. *Abdomen* black above except narrow lateral and apical margin; venter yellow. Length, 7 mm.

Holotype, female, Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939 (M. I. Nikitin); author's collection. Paratype, female, same data but July 1-19, 1939.

O. tigrina is the only other palearctic species with a wholly black abdomen; but in that species, the face is rounded, R_4 is present, the coloration of the legs and venter is different, etc. The closest relatives are such species as *O. microleon* of Europe and *O. hoodiana*, *O. pubescens*, etc., of North America.

SUBFAMILY CLITELLARIINÆ

NEMOTELUS ARGENTIFER Lw.

Three females, one male, Curum, 100 km. Bouchir, Iran (Brandt).

EPHIPPIUM BERGERI Pleske

Male, Yalhenya, Pin-Chang Prov., Manchuria, August 1-15, 1939. (M. I. Nikitin.)

Ephippium obtusum James, new species

Male. *Head*, including antennæ, entirely black; proboscis brownish-black. Eyes densely black-pilose. Occipital orbits with silvery tomentum; proboscis white haired; head otherwise wholly black pilose, pile especially dense on face and cheeks. Ratio of first and second antennal segments, flagellum (excluding style) and style 8:5:16:8; style thick, blunt at apex, with short, black pile; segments of flagellum and style indistinctly separated. *Thorax*, including legs and scutellum, entirely deep black; yellow tomentose on dorsum, whitish on pectus; pile mostly black, rather short, moderately abundant; lateral spines short, somewhat longer than first antennal segment; scutellum slightly directed upward, spines on a level with scutellum, divergent, sharp, not club-like, about as long as first two antennal segments combined. Tarsi and apices of tibiæ, especially front and hind ones, densely yellow-pilose, so that in certain lights these members may appear yellow to the naked eye. Halteres yellow. Wings black, deepest along anterior margin; veins black; union of discal and fifth posterior cells almost punctiform. *Abdomen* black, broader than thorax, as broad as long; short black pilose on basal three and one-half dorsal and on first ventral segments, otherwise whitish-pilose, silvery at apex dorsally. Length, 12 mm.

Holotype, male, No. 5124, Calif. Acad. Sci., Ent., Kobe, Japan, May, 1909.

E. stylatum Brunetti, from Kangra Valley, India, is also a black species with a thick, blunt style; but it is smaller, the wings are gray, the knees yellow, etc. The other known species of *Ephippium* all have acute, slender, arista-like styles.

SUBFAMILY PACHYGASTRINÆ

EVAZA JAPONICA Lindner

Male (undescribed). Frontal triangle, except spot at apex, silvery pollinose. Thorax with longer pile than in female. Scutellum, except spines, almost wholly black, only a trace of yellow at apex. Halteres yellow. Abdomen with considerable black, as well as pale, pile above. Otherwise agrees with Lindner's description of female.

One specimen, Mt. Ishizuchi, Shikoku Al., Japan, July 14, 1933.

DISCUSSION

The eastern Asiatic material treated in this paper shows an interesting blending of European, American, and Oriental ele-

ments. The Oriental elements include *Hoplacantha japonica*, *Hoplacantha solox*, *Geosargus metallinus*, *Ptecticus tenebrifer*, *Ptecticus aurifer*, *Ephippium bergeri*, *Ephippium obtusum*, and *Evaza japonica*. All these either occur or have close relatives in the Oriental region. As to the genera, *Hoplacantha* is neither European nor Nearctic (Neotropical, however); *Ptecticus* is not European and the two species listed here are subgenerically distinct from the American species; *Ephippium* has one European and no American representatives.

The European elements, that is, species either occurring in Europe or having close relatives there, include *Geosargus splendens*, *Geosargus vandykei*, *Chloromyia melampogon*, *Stratiomys anubis*, *Stratiomys lindneri*, and *Odontomyia viridula*. To the great Holarctic fauna, with close relatives both in Europe and Nearctic America, belong *Allognosta sinensis*, *Geosargus mandarinus*, *Microchrysa laodunensis*, *Odontomyia atrodorsalis*, *Odontomyia staurophora*, and *Stratiomys annectens*. The last two species are of special interest because they form connecting links between European and even more closely related Nearctic species.

ADDITIONAL RECORDS OF THE COCKROACH, *SUPELLA SUPELLECTILIUM* (SERV.), IN CALIFORNIA

The recent note by Rehn (Ent. News, 1940, 51:222) recording the presence of *Supella supellectilium* (Serv.) in California (San Bernardino) for the first time prompts the writer to offer this additional note. Recently (Nov. 4, 1940) specimens of this cockroach (one male, one nymph) were collected in Owens Valley by Dr. Harvey W. Crook, Inyo County Health Officer. Dr. Crook stated that the cockroaches were causing trouble in a house, where they were found in the kitchen, around the sink, in cupboards, in cracks, etc.; the oöthecæ were found on curtains, in corners and other convenient places.

Through Dr. B. C. McIvor, another record is available from Alameda, California; the specimens were obtained in the fall of 1937.

For additional information concerning this cockroach, the reader is referred to the papers of Back (Proc. Ent. Soc. Wash., 1937, 39:205) and Gould & Deay (Purdue Univ. Agric. Exp. Sta. Bul. No. 451, 1940).—THOMAS H. G. AITKEN.